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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,500	07/30/2003	Jonathan W. Gabrys	38190/261436	7906
826	7590	03/25/2005	EXAMINER	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			VERDIER, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/630,500	<b>Applicant(s)</b> GABRYS ET AL.	
	<b>Examiner</b> Christopher Verdier	<b>Art Unit</b> 3745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,10-12,14-18,20-24,27 and 28 is/are rejected.
- 7) ☒ Claim(s) 3,8,9,13,19,25 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-30-03</u> . | 6) <input type="checkbox"/> Other: ____.  |

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cap being thicker than the base of the absorption element (claims 8 and 25), the base being thicker than the cap of the respective absorption element (claims 9 and 26), at least one of the cap and base of each absorption member being curved (claim 14), and each absorption element being formed of at least one curved member (claim 28) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

The disclosure is objected to because of the following informality: Appropriate correction is required.

On page 2, lines 33-34, the statement that “the cap of each absorption element can extend circumferentially at least to overlap the first end of the cap of an adjacent one of the absorption elements” is unclear as to what “at least to overlap” would encompass.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 7, which recites that the absorption elements are formed of at least one of the group consisting of carbon steel, stainless steel, and nickel-chromium-iron alloys, has no antecedent basis in the specification.

Claim 15, which recites that the outer ring is configured to be at least partially deformed by the debris material, has no antecedent basis in the specification.

Claim 23, which recites the length of each base being shorter than a distance between the second end of the base and an arc defined by the path of at least one blade, has no antecedent basis in the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 17, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4, which recites that the second end of each cap of each absorption element extends circumferentially at least to overlap the first end of the cap of an adjacent one of the absorption elements is unclear as to scope as to what "at least to overlap" means, because overlapping elements require that the one element lies over another element, and if the elements are spaced from one another such one element does not lie over another element (as "at least to overlap" could mean), they would no longer overlap. Claim 17, line 2, which recites "at least to at least partially overlap", and claim 20, line 2 which recites "at least to overlap" are indefinite for the same reasons.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-2, 5-7, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gallagher 6,182,531. Note the containment device for use in retaining debris material traveling radially outward in a rotary device 20, the containment device comprising an outer ring 30 extending generally circumferentially and defining an inner surface directed radially inward, and a plurality of energy absorption elements 40 disposed on the inner surface of the outer ring, each absorption element extending radially inward and circumferentially such that each absorption element is configured to be plastically deformed radially outward by debris material impacting the absorption element, wherein each absorption element includes a base (its radially outer end and its middle portion) and a cap (at its radially inner end), the base extending in a generally radial direction between a first end connected to the inner surface of the outer ring and a second distal end, the cap being connected to the base and defining an angle therebetween, with the cap of each absorption element extending circumferentially to at least partially overlap an adjacent one of the absorption elements. The base of each absorption element forms an angle Beta with a tangential direction of the outer ring at the intersection of the base and the outer ring, and each cap defines an angle alpha with the tangential direction, the angle Beta being about 60 degrees and the angle alpha being about 0 degrees. The absorption elements extend generally in an axial direction of the outer ring, and are made of carbon steel. At least one of the cap and the base of each absorption element is a curved member, and the outer ring is configured to be at least partially deformed by the debris material. (Note that any element is configured to be at least partially deformable if the element is impacted with a large enough force).

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Claims 16 and 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Rothman 3,261,228. Note the turbine with a containment device for containing debris material, the turbine comprising a rotatable turbine rotor 12 configured to rotate about an axis of rotation, at least one turbine blade 32 connecting to the turbine rotor and configured to rotate about the axis of rotation with the turbine rotor, an outer ring 24 extending circumferentially around the turbine rotor and at least one blade, the outer ring defining an inner surface directed radially inward, and a plurality of energy absorption elements 34 disposed on the inner surface of the outer ring, each absorption element extending radially inward and circumferentially such that each absorption element is configured to be plastically deformed radially outward by debris material impacting the absorption element, with the absorption elements being flat (radially) and curved (circumferentially). See column 3, lines 27-37.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gallagher 6,182,531 in view of Official Notice. Gallagher discloses a containment device substantially as claimed as set forth above, including absorption elements each having a cap attached to the base of the respective absorption element, but does not disclose that the caps are attached to the bases by welding.

Official Notice is taken that welding is a conventional and well-known method of attaching two members together, for the purpose of forming a rigid and strong connection between the two members.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to attach the caps to bases by welding, for the purpose of forming a rigid and strong connection between the caps and the bases.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gallagher 6,182,531. Gallagher discloses a containment device substantially as claimed as set forth above, including a rotatable element 20 mounted within the outer ring, the rotatable element having an outer edge that defines an arcuate path of travel, but does not disclose that the distance between



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the absorption element 40 and the arcuate path of travel is greater than about 1/10 of the diameter of the rotating element.

The recitation of the distance between the absorption element and the arcuate path of travel being greater than about 1/10 of the diameter of the rotating element is deemed to be a matter of choice in design. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to select the distance between the absorption element and the arcuate path of travel to be a specific value, such as greater than about 1/10 of the diameter of the rotating element, for the purpose of adjusting the amount of impact deformation that the impacting debris causes the absorption element to undergo.

Claims 1-2, 5-7, 12, 14-15, 16-18, 21-22, 24, and 28 (as far as claim 17 is definite and understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothman 3,261,228 in view of Gallagher 6,182,531. Rothman discloses a turbine substantially as claimed with a containment device for containing debris material, the turbine comprising a rotatable turbine rotor 12 configured to rotate about an axis of rotation, at least one turbine blade 32 connecting to the turbine rotor and configured to rotate about the axis of rotation with the turbine rotor, an outer ring 24 extending circumferentially around the turbine rotor and at least one blade, the outer ring defining an inner surface directed radially inward, and a plurality of energy absorption elements 34 disposed on the inner surface of the outer ring, each absorption element extending radially inward and circumferentially such that each absorption element is configured to be plastically deformed radially outward by debris material impacting the absorption element, with

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the outer ring 24 being configured to be at least partially deformed by the debris material. (Note that any element is configured to be at least partially deformable if the element is impacted with a large enough force). However, Rothman does not disclose that each absorption element includes a base and a cap, with the base extending in a generally radial direction between a first end connected to the inner surface of the outer ring and a second distal end, with the cap being connected to the base and defining an angle therebetween, with the cap of each absorption element extending circumferentially to at least partially overlap an adjacent one of the absorption elements, with the base of each absorption element forming an angle Beta with a tangential direction of the outer ring at the intersection of the base and the outer ring, and each cap defining an angle alpha with the tangential direction, with the angle Beta being about 60 degrees and the angle alpha being about 0 degrees, with the absorption elements extending generally in an axial direction of the outer ring, and being made of carbon steel, with at least one of the cap and the base of each absorption element being a curved member, with the absorption elements extending generally in the axial direction of the rotor, with the outer ring and the absorption elements having a greater length in the axial direction than the axial length of the rotor and the blades, with each absorption element being formed of at least one curved member.

Gallagher (figures 1-2 and 3a) shows a containment ring having absorption elements 40 each including a base (its radially outer end and its middle portion) and a cap (at its radially inner end), with the base extending in a generally radial direction between a first end connected to the inner surface of an outer ring 30 and a second distal end, with the cap being connected to the base and defining an angle therebetween, with the cap of each absorption element extending

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circumferentially to at least partially overlap an adjacent one of the absorption elements, with the base of each absorption element forming an angle Beta with a tangential direction of the outer ring at the intersection of the base and the outer ring, and each cap defining an angle alpha with the tangential direction, with the angle Beta being about 60 degrees and the angle alpha being about 0 degrees, with the absorption elements extending generally in an axial direction of the outer ring, and being made of carbon steel, with at least one of the cap and the base of each absorption element being a curved member, with the absorption elements extending generally in the axial direction of a rotor 20, with the outer ring and the absorption elements having a greater length in the axial direction than the axial length of the rotor, with each absorption element being formed of at least one curved member, for the purpose of retaining fragments during catastrophic failure of a high energy rotary mechanism, allowing the absorption elements to be ductile and yield through plastic deformation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the absorption element arrangement of Rothman with the arrangement of Gallagher, for the purpose of retaining fragments during catastrophic failure of a high energy rotary mechanism, allowing the absorption elements to be ductile and yield through plastic deformation.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rothman 3,261,228 and Gallagher 6,182,531 as applied to claim 18 above. The modified turbine of Rothman shows all of the claimed subject matter except for the length of each base being shorter

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than a distance between the second end of the base and an arc defined by the path of at least one blade.

The recitation of the length of each base being shorter than a distance between the second end of the base and an arc defined by the path of at least one blade is deemed to be a matter of choice in design. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to select the length of each base to be shorter than a distance between the second end of the base and an arc defined by the path of at least one blade, for the purpose of adjusting the amount of impact deformation that the impacting debris causes the absorption element to undergo.

***Allowable Subject Matter***

Claims 3, 8-9, 13, 19, and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

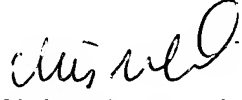
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.  
March 13, 2005

  
Christopher Verdier  
Primary Examiner  
Art Unit 3745